Amendments to the Claims

Listing of claims:

Claim 1 (Previously Presented):

An isolated nucleic acid molecule selected from the group consisting of:

a) a nucleic acid having the sequence of the coding portion of SEQ ID NO:1;

b) a nucleic acid encoding the amino acid sequence of SEQ ID NO:2; and

c) a nucleic acid that hybridizes to a) or b) above, wherein a positive hybridization signal is observed after washing with 1 X SSC and 0.1% SDS at 55°C for one hour.

Claim 2 (Canceled)

Claim 3 (Previously Presented):

The nucleic acid molecule of claim 1, which further comprises a signal peptide coding region of any sequence.

Claim 4 (Previously Presented):

An expression vector which comprises the nucleic acid molecule of claim 1, wherein the expression vector propagates in a procaryotic or eucaryotic cell.

Claim 5 (Original):

A cell of a procaryote or eucaryote transformed or transfected with the expression vector of claim 4.

Claim 6 (Currently amended):

An isolated protein encoded by the nucleic acid of claim 1. ~~which has bacterial autoinduction inactivation activity, where the protein comprises the amino acid sequence of SEQ ID NO: 2~~.

Claim 7 (Previously Presented):

A method for increasing disease resistance in a plant or animal, which method comprises introducing into a cell of such plant or animal a nucleic acid selected from the group consisting of:

a) a nucleic acid having the sequence of the coding portion of SEQ ID NO:1;

b) a nucleic acid encoding the amino acid sequence of SEQ ID NO:2.

Claim 8 (Canceled)

Claim 9 (Previously Presented):

The method of claim 7, wherein the nucleic acid further comprises a signal peptide coding region of any sequence.

Claim 10 (Previously Presented):

The method of claim 7, wherein the nucleic acid further comprises a membrane attachment domain-coding region of any source.

Claim 11 (Original):

The method of claim 7, wherein the plant is susceptible to bacterial soft rot disease.

Claim 12 (Original):

The method of claim 11, wherein the plant is selected from the group consisting of potato, eggplant, Chinese cabbage, carrot and celery.

Claim 13 (Original):

The method of claim 7, wherein the plant is susceptible to a bacterial disease in which the expression of a virulence gene is regulated by an N-acyl homoserine lactone autoinducer.

Claim 14 (Previously Presented):

A method of preventing or reducing bacterial damage to a plant or animal, which method comprises administering to a plant or animal in need of such prevention or reduction an effective amount of a bacterial autoinducer inactivation protein, wherein the protein comprises SEQ ID NO: 2.

Claim 15 (Canceled)

Claim 16 (Previously Presented):

A composition for preventing or reducing bacterial damage to a plant or animal, which comprises:

a) an effective amount of a bacterial autoinducer inactivation protein; and

b) a suitable carrier, wherein the protein comprises SEQ ID NO: 2.

Claim 17 (Canceled)

Claim 18 (Previously Presented):

A method for screening of bacterial isolates for autoinducer inactivation activity, which comprises:

a) isolating a single colony bacterial culture from soil or plant samples;

b) screening the culture for autoinducer inactivation activity as expressed by the protein of SEQ ID NO:2;

c) preparing a crude protein extract from the culture; and

d) confirming enzymatic inactivation of autoinducer activity by the crude protein extract.

Claim 19 (Previously Presented):

A method of isolating the nucleic acid of claim 1, which comprises the steps of:

a) preparing a gene bank from a donor organism that contains a nucleic acid sequence coding for a protein with an autoinducer inactivation activity in a suitable host organism;

b) screening the clones of the gene bank; and

c) isolating the clones which contain a nucleic acid coding for a protein with autoinducer inactivation activity.

Claim 20 (Original):

A process as claimed in claim 19, wherein *E. coli* is used as host organism.

Claim 21 (Original):

A process as claimed in claim 19, wherein the steps of preparing a gene bank, screening the clones, and isolating the clones are performed in an *E. coli* strain that does not inactivate the autoinducer.

Claim 22 (Previously Presented):

A method which comprises:

a) introducing the nucleic acid sequence of claim 1 into a bacterial cell; and

b) screening the bacterial cell obtained from step a) for changed biological function.

Claim 23 (Original):

The method of claim 22, wherein the changed biological function is a function which is lost as a result of step a).

Claim 24 (Original):

The method of claim 22, wherein the changed biological function is a function which is suppressed as a result of step a).

Claim 25 (Original):

The method of claim 22, wherein the changed biological function is a function which is enhanced as a result of step a).